Installation & Commissioning Guide



When **energy** matters



Introduction:

The purpose of this document is to explain the steps of installing and configuring the DIRIS DigiBOX M PRO.

Part Number	Description	
USDBP04D70 DIRIS DigiBOX M4 PRO; D-70 display; 4 metering points/12 CT channels; Steel NEMA 12/3R enclosure; RS485 + Etherne communication + WEBVIEW-M webserver; 200 – 500 VAC Power supply; prewired with fused voltage connections		
USDBP08D70	DIRIS DigiBOX M8 PRO; D-70 display; 8 metering points/24 CT channels; Steel NEMA 12/3R enclosure; RS485 + Ethernet communication + WEBVIEW-M webserver; 200 – 500 VAC Power supply; prewired with fused voltage connections	



Dimensions (in):





Wiring diagrams:

> USDBP04D70





> USDBP08D70





Technical characteristics:

Electrical characteristics

Auxiliary power supply		
Voltage input	200-500 VAC	
Frequency	50/60 Hz	

Measurement characteristics

Power and energy measurement				
Accuracy active energy and active	Class 0.2, DigiBOX M alone			
power	Class 0.5 with TE, iTR, TF sensors			
	Class 1 with TR sensors			
Accuracy reactive energy	Class 1 with TE, iTR, TF sensors			
Power factor measurement				
Accuracy	Class 0.5 with TE, iTR, TF sensors			
	Class 1 with TR sensors			
Voltage measurement				
Electrical network type	Single-phase (1P2W) / Two-phase			
	(2P2W) / Two-phase with neutral			
	(2P3W) / Three-phase (3P3W) /			
	Three-phase with neutral (3P4W)			
Voltage measurement rating	500-300 VAC (Ph-N) / 87-520 VAC			
	(Ph-Ph) – CAT III			
Voltage accuracy	Class 0.2			
Voltage input consumption	≤1VA			
Frequency range	45 – 65 Hz			
Frequency accuracy	Class 0.02			
Current measurement				
Number of current inputs	DigiBOX M4: 12			
	DigiBOX M8: 24			
Associated current sensors	Solid-core TE, split-core TR/iTR,			
	flexible Rogowski TF			
Connection	Socomec RJ12 cables			
Accuracy	Class 0.2 DigiBOX M alone			
	Class 0.5 with TE, iTR, TF sensors			
	Class 1 with TR sensors			

Mechanical characteristics

Application	Indoor installations	
Enclosure	Steel, finished in ANSI 61 gray powder	
	coating	
Enclosure dimensions (in)	12 (H) x 12 (W) x 6 (D)	
Protection rating	NEMA 12/3R; IP24	
Operational temperature	+14 +158 °F / -10 °C +70 °C	
Altitude	≤ 9840 ft / 3000 m	



Communication characteristics

RS485	
Link	RS485
Connection type	2 to 3 half duplex wires
Protocol	Modbus RTU
Baudrate	9600 – 115200 baud
Ethernet	
Link	Ethernet
Connection type	RJ45 10/100 Mbs
Protocol	Modbus TCP/IP, BACnet IP, SNMP
	v1, v2, v3
USB	
Link	Micro USB Type b
Protocol	Modbus RTU
Use	Configuration via Easy Config
	System and firmware upgrade via
	Product Upgrade Tool



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1. Hazards and Warnings

The term "device" used in the following paragraphs refers to the DigiBOX M PRO and its associated current sensors (TE, TR/iTR or TF). The assembly, use, servicing and maintenance of this equipment must only be carried out by trained, qualified professionals.

SOCOMEC shall not be held responsible for failure to comply with the instructions in this manual.

1.1 Risk of electrocution, burns or explosion



Caution: risk of electric shock	Ref. ISO 7000-0434B (2004-01)
Caution: refer to the accompanying documentation each time this symbol is shown	Ref. ISO 7000-0434B (2004-01)

- Only duly authorized and qualified personnel may work or install/uninstall the device.
- The instructions are valid together with the specific instructions for the device.
- The device is designed only for its intended purpose as set out in the instructions.
- Only accessories authorized or recommended by SOCOMEC may be used in association with the device.
- Before proceeding with installation, maintenance, cleaning, disassembly, connection, or maintenance work, the device and system must be cut off from the mains to avoid electrocution and damaging the system and device.
- This device is not designed to be repaired by the user.
- For any questions related to the disposal of the device, please contact SOCOMEC



Do NOT clamp or pull out NON-INSULATED conductors carrying DANGEROUS VOLTAGE which could cause an electric shock, burn or arc flash. Ref. IEC 61010-2-032

Failure to comply with the instructions of the device and this safety information can cause bodily injury, electric shock, burns, death or damage to property.



1.2 Risk of Damaging the Device



Caution: risk of electric shock	Ref. ISO 7000-0434B (2004-01)
Caution: refer to the accompanying documentation each time this symbol is shown	Ref. ISO 7000-0434B (2004-01)

To ensure that the device operates correctly, make sure that:

- The device is correctly installed.
- The network frequency indicated on the device is observed: 50 or 60 Hz.
- A maximum voltage at the voltage input terminals of 520 VAC phase/phase or 300 VAC phase/neutral is observed.
- Always connect the TE, TR/iTR or TF current sensors using Socomec RJ12 cables and observing the maximum prescribed currents.
- Only use RJ45 SOCOMEC cables to interconnect the modules via the Digiware bus

Failure to respect these precautions could cause damage to the device.

1.3 Responsibility

- Assembly, connection and use must be carried out in accordance with the installation standards currently in force.
- The device must be installed in accordance with the rules given in this manual.
- Failure to observe the rules for installing this device may compromise the device's intrinsic protection.
- The device must be placed in a system which itself complies with the applicable standards and safety regulations of the country of installation
- Any cable which needs to be replaced may only be replaced with a cable having the correct rating.
- Despite constantly striving for quality in preparing this manual, errors or omissions are always a possibility and are not the responsibility of SOCOMEC.



2. Conduit Hole

The DIRIS DigiBOX M is shipped with conduit holes which will need to be knocked out on the bottom of the enclosure. See the below drawings for conduit hole locations.

- **1.** Open the enclosure door.
- 2. Only remove the tab from the desired conduit hole, where the conduit fittings will be installed.
- **3.** To maintain the enclosure's environmental rating, the installer must use conduit hubs/fittings with the same environmental rating as the enclosure.
- **4.** Maintain spacing of at least ½ inch between conduit hubs/fittings and uninsulated live conductors.
- 5. Use "Grounding" conduit fittings with built-in set screws. Run insulated copper conductors, 16awg or thicker, from fittings to spare ground terminal blocks.
- 6. Route incoming voltage conductors at least ¼ inch away from current sensor and signal conductors. Route current sensor conductors at least ¼ inch away from communication conductors.
- 7. Use cable ties to secure conductors to each other and to maintain spacing



Figure 1: Conduit hole locations



3. Mounting the DIRIS DigiBOX M PRO

- **1.** Position the DIRIS DigiBOX M on the desired mounting surfaces.
- **2.** Using the appropriate hardware fasten the DigiBOX M PRO to the desired surface by placing the appropriate fastening hardware through the DigiBOX M PRO mounting tabs.



Figure 2: Top and Bottom DigiBOX M PRO mounting Tabs



4. Wiring of the system



Before wiring the system, make sure that the fuses are NOT installed. The fuses are to be installed AFTER all wiring is complete.

Use class 1 conductors and the input voltage must be 200 -520VAC L-L.

Behind the enclosure door the prewired components and the components that need to be wired can be seen.

1. Wire the voltage according to the designated fuse holder (L1, L2, L3, and N) and feed the cables out of a conduit hole.



Figure 3: Wire the voltage based on the labeled fuse holders (note that the fuse holders are empty).

 Plug in the RJ12 cables to the DIRIS Digiware I-35 meter modules and feed the RJ12 cables out of a conduit hole. Each DIRIS Digiware I-35 meter module has 3 CT inputs, allowing to monitor a 3phase load or 3 x single-phase loads.



Note: For a three-phase system

- Current sensor on phase A should be connected to IO1 RJ12 port of DIRIS Digiware I-35,
- Current sensor on phase B should be connected to IO2 RJ12 port of DIRIS Digiware I-35,
- Current sensor on phase C should be connected to IO3 RJ12 port of DIRIS Digiware I-35.



Figure 4: The boxed area is where the RJ12 cables are inserted on DIRIS Digiware I-35.

In case of wiring errors (orientation of current sensor or phase association), software correction is possible without physically changing the wiring of current sensors (refer to **5.4.3, paragraph 2** to change current sensor settings).

- **3.** Connect the current sensors to the load and plug the current sensors into the RJ12 cables connected to the DIRIS Digiware I-35 modules.
- **4.** Plug in the Ethernet or RS485 bus depending on which communication protocol will be used, and feed the cables out of a conduit hole.
- 5. Maintain spacing of at least ½ inch between conduit hubs/fittings and uninsulated live conductors. Use cable ties to secure conductors to each other and to maintain spacing.
- 6. Put fuses provided in the black bag into the fuse holders
- 7. The products should now be on.



5. Configuring the DigiBOX M

5.1 Making sure firmware is up to date

1. Before commissioning your DIRIS DigiBOX M PRO, make sure the associated devices DIRIS Digiware D-70, U-30, I-35 operate under the latest firmware versions.

The latest firmware versions are available on the Socomec website and firmware upgrade is done using the Product Upgrade Tool software, by connecting a laptop to the Micro USB port of the desired device.

Go to the website to download the Product Upgraded Tool: https://www.socomec.us/en-us/product-upgrade-tool

2. Product firmware is accessible from the Resource Center at the following link: <u>https://www.socomec.us/en-us/resource-center/resource-type/firmware-266#main-wrapper</u> Use the filter section on the left to find and download firmware pertaining to the product being upgraded (DIRIS Digiware D-70, U-30, and I-35).

Please note that the firmware downloaded from the website is a zip file. DO NOT unzip the file, just directly upload the file into Product Upgrade Tool.



3. Plug in a micro USB cable to the back of the DIRIS Digiware D-70 or associated module (U-30 module, I-35 module).



Figure 6: The micro USB port on the DIRIS Digiware D-50.

4. Open the Product Upgrade Tool software to get the below screen:

Product Upgrade To	loc	-	
Product Upgrade Tool		Product Upgrade Tool V1.4	.3.3 📃
Modules connect	ted		∧ Refrest
Master	D-50	2.3.25.1	
	File System	2.3.25	
	Bootloader	1.0.3.0	
File content			∧ Browse
Package select	ed : Package version :		
Update			<u>_</u>
Data			~
There is no RF mod There is no option Opt Board Not Cor Detection terminat	fule connected to this device. module connected to this device. nnected ed		
			mec

Figure 7: Product Upgrade tool home screen.



Product Upgrade Tool				-		>
Product Upgrade Tool			Product Upgrade Too	V1.4.3.3	Refre	sh
Master	D-50	2.3.25.1				-
	File System	2.3.25				
	Bootloader	 1.0.3.0				
File content				~	Brows	se
Package selected :	Package version :					
Update						
Errors						^
Data						^
There is no RF module co There is no option modul Opt Board Not Connected Detection terminated	nnected to this device. e connected to this device. d					
			× .50	çon	iec	

Figure 8: Screen after the refresh button is pressed.

- 5. Click "Browse" and select the firmware folder that was downloaded.
 - An orange symbol means the firmware selected is the same as the one on the DIRIS Digiware D-70.
 - A green symbol means that the firmware selected is more recent than the one currently on the DIRIS Digiware D-70 and an upgrade is possible.
 - A red symbol means that the firmware selected is a lower version than the one currently on the DIRIS Digiware D-70.



Figure 9: Product upgrade tool screen once the firmware is selected.



6. Click "Update" if needed. Once the firmware is up to date you will see the following screen

Product Upgrade Tool			- 0 >
Product Upgrade Tool			Product Upgrade Tool *1433 88
Modules connected			 Reteat
Master 📒	D-50	2.5.12.126	
1 B	File System	2.5.12	
, e	Bootloader	1.0.3.0	
File content			A Browse
Package selected :	DIRIS-DIGIWARE-D-50-2.5.12PRODUCT-FIRMWA	ARE_2022-01_PFW_ZXX (4).zip Package version : 2.5.12.126	
880393D50_FullPacka	ige_2_5_12_126.dfu 2.5.1	12.126	
Update			
Errors			A
The first is no generation of the constraints of th			Vpdate completed

Figure 10: Product Upgrade Tool screen once update is complete.

Note: DIRIS Digiware D-50 Used in Example

7. Repeat the same operation for DIRIS Digiware U-30 and I-35 modules if necessary.



Figure 4: The micro USB port on the DIRIS Digiware U-30



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DIRIS D	DIRIS		

Figure 5: The micro USB port on the DIRIS Digiware I-35

5.2 Configuration via the D-70 display

For instructions on configuring your DIRIS DigiBOX M via the DIRIS Digiware D-70 interface refer to Section 9 of the DIRIS Digiware D-50_D-70 Display and Power Supply Interface Installation and Operating Manual

https://www.socomec.us/sites/default/files/2022-01/DIRIS-DIGIWARE-D-50_D-70---DISPLAY-AND-POWER-SUPPLY-INTERFACE_INSTALLATION-AND-OPERATING-MANUAL_2022-01_548088C_EN.pdf

5.3 Installing Easy Config System

Easy Config System is a free software used for configuring Socomec Power metering devices from a computer.

- 1. Download Easy Config System from the following link: https://www.socomec.us/en-us/easy-config-system-software
- 2. Once the Easy Config System folder is saved on your computer, right click on the setup file and **Run as administrator**.



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t basy coning a	Open		Apprication	TTO, TOO KB
•	Run as administrator	×	1	
	Troubleshoot compa Pin to Start	tibility		
•	Share View online Choose OneDrive fol	ders to sync		
₩.	7-Zip CRC SHA Edit with Notepad++ Pin to taskbar Restore previous ver	> > sions		
	Send to	>		
	Cut Copy			
	Create shortcut Delete Rename			
	Properties			

- 3. Open Easy Config System to configure your DIRIS DigiBOX M.
- **4.** When logging in, choose the Admin profile and complete the verification using the information below. Each profile provides a different level of access.

Profile	Default Password	Capabilities
User	No Password	Visualization
	NO Passworu	Basic Configuration
		Visualization
	Admin	Full Configuration
		Save System
Admin		Open System
		Save Template
		Upload Template
		Template Management Password Modification

5. Create a new configuration by selecting New Configuration.





6. In the pop up window name your configuration and choose an icon.

Create Configuration					
Name					
	Create				

7. Select the recently created configuration from the list.



8. Plug the micro USB cable to the slot on the back of the DIRIS Digiware D-70. Plug the USB end of the cable to the computer.

The DIRIS Digiware D-70 display should be configured first.

9. Click on the Device List icon

i





10. Navigate to and select **USB mode** on the top right corner to connect to the D-70 display and access configuration menus.



The D-70 display will be automatically be detected by **Easy Config System** (shown in the image below). If not, try disconnecting and reconnecting the cable and again clicking on **USB Mode**.

🤹 Easy (onfig System							– a ×	
f					× S	OCOMEC EASY CONFIG@SYSTEM	2.3 🕒	English	•
Ξ	LIST OF CONNECTED DEVICES								
	♥ USB Mode							Leave This Mode	
å							Q. Search		
62									
00	Reference	Name	Protocol	Modbus Address	Status	Actions			
ß	DIRIS Digiware D-50v2	D-50	Modbus RTU serial	1		🔍 3 🛧 🛣			
~									
10									
۵									
-*[] -*									
	NOTE: DIKIS DIGIWARE D-50 USEA IN EXAMPLE								

5.4 Configuration of the DIRIS DigiBOX M PRO using Easy Config System

5.4.1 Configuring the DIRIS Digiware D-70 display

1. Navigate to and select **Device Configuration**.

Display Settings

2. The **Display Settings** section in the **General** tab on the bottom left side of the screen contains information about the D-70 display (language, backlight settings etc.)

Once you have entered your parameters, click on **Program** at the top right side of the screen and this will immediately update the DIRIS Digiware D-70. When you click on **Program**, it flashes the parameters **of the tab that you are currently working on** to the device.



Communication

3. The **Communication** section will show the different communication parameters (IP Address, MODBUS Address, Baud rate, etc.).

CONFIGURATION -					
 Communication 					
% IP Configuration					
% RS485					
% Digiware					
% SNMP					
% BACnet IP					

The IP address and the Modbus address will give you the capability to connect and communicate with the product. The RS485 port can be configured as a master or a slave under the **RS485** section.

6

Each Device on the Digiware Bus has its own MODBUS/JBUS ID. This unique ID is a number between 1 and 247. The default JBUS/MODBUS address of devices is as follows:

- DIRIS Digiware D-50/D-70 displays and M-50/M-70 gateways: ID 001
- U-30 Modules: ID 006
- I-35 Modules: ID 005

Date/Time

8. Next, click on the **Date/Time** section. You can synchronize the date/time of the DigiBOX M to the Date/time of your computer manually, or set up an SNTP server for an automatic time synchronization to an SNTP server. Ask your IT department for SNTP server credentials.

CONFIGURATION	•
▼ Date/Time	
% Date / Time	
% SNTP Server	



Consumption Curves

- **9.** Set the desired integration period for **Consumption Curves**. Consumption Curves can be visualized on the embedded webserver WEBVIEW-M. They allow a breakdown of energy consumption per load, usage or location.
- **10.** Continue to go through each menu, and configure the D-70 as needed for your application.
- **11.** Click on the **Real Time Visualization** icon on the left side bar.



12. Navigate to and click on **Auto-discovery** in the middle of the screen. The Auto discovery will scan and detect all Digiware modules on the Digiware bus (and other Socomec meters such as DIRIS B, DIRIS A-40 connected via RS485).

🔅 Easy (Config System					- socomec		-	σ×
=	VISUALISATION:					Asocomec	EAST CONFIG OSISIEM 2.3	er 🌚 Eng	ISI1
	♥ USB Mode							Back to Dev	ice List 💿
\$	ORGANISATION -	DIRIS Digiwa	are D-50v2@255						
æ	Devices by Gateway	System Inform	nation		IP Configuration		Storage		
~	Q Search	Serial No: 211 ID: 147558	92040035		IP Address: 172.31.12.49		Trends :	Active	
fo.	• (5) D-50 - 147F5B	Firmware Vers	ion: 2.5.12		Gateway: 172.31.12.1	0	Consumption Curves :	Active	
×		Date/Time: 20	2/12/01 08:24:04						
Δ									
_		Devices Con	rected				Protocols		
÷.		RS485 Bus Digiware Bus Ethernet	Active Active Active	0 Devices 5 Devices 0 Devices			SMTP SNTP FTP	Inactive Inactive Inactive	-
	DATA 👻	Bluetooth	Inactive				BACnet SNMP Cloud Platform	Inactive Inactive	
	Dashboard	Bus	Туре	Name	Auto-Discovery Edit Modbus	Addresses General	te Report	Com. Status	Actions
		Digiware	DIRIS Digiware U-30	U-30@2	78AE6B 2	1.	11.5 01/12/2022 08:24:03	Good	Ŷ
		Digiware	DIRIS Digiware I-35	1-35@3	468E40 3	1.	11.3 01/12/2022 08:24:03	Good	Ŷ
		Digiware	DIRIS Digiware I-35	1-35@4	A2385F 4	1.	5.1 01/12/2022 08:24:03	Good	8
		Digiware	DIRIS Digiware I-35	1-35@6	36CFAE 6	1.	11.3 01/12/2022 08:24:03	Good	Ŷ
		Digiware	DIRIS Digiware I-35	1-35@7	27F113 7	1.	5.1 01/12/2022 08:24:02	Good	Ŷ

After a few minutes, the product list will be displayed. If this is the first time you configure the modules, a Modbus ID will be automatically assigned to each DIRIS Digiware U/I module. You can change the Modbus ID by clicking **on Edit Modbus Addresses**.



Once the Auto-discovery is done, all downstream Digiware modules will appear in the "Organization" section under the D-70:



You can now configure the slave modules (U-30 and I-35 modules) without disconnecting the USB cables from the D-70.

5.4.2 Configuring the DIRIS Digiware U-30 module

The DIRIS Digiware U-30 module should be configured before the DIRIS Digiware I-35 modules.

1. Navigate to and select Device Configuration.



2. In the "Organization" section on the left side of the screen, select the U-30 module

Measurement

3. Electrical Network: select the network **Type** being measured based on where the voltage is measured by the U-30 module as well as the nominal voltage and nominal frequency (60 Hz in North America)

sy Config System					- 0
			SOCOMEC EASY CONFIG®	SYSTEM 2.3 🕞	English
DEVICE CONFIGURATION					
ORGANISATION -	Electrical Network				
Devices by Gateway 👻	Description	Value	U-30@6	Unit	Read
Q Search	* Electrical Network				Redu
▼ (5) D-70 - BC1939	* Network				Program
U-30@6 - F221B6	Туре	3P+N	▼ 3P+N		
I-35@2 - 7E229C	Nominal Voltage	277	277	V	
I-35@3 - E34C91	Nominal Frequency	60 Hz	• 60 Hz		
I-35@4 - 70FACA	Phase Rotation	V1 - V2 - V3	▪ V1 - V2 V3		
I-35@7 - E6C7E6	Voltage Transformer				
	Voltage Transformer	No	 No 3P+N 2P 2P+N 3P 3P+N 		
CONFIGURATION -					
✓ Measurement					
% Electrical Network					
% Calculations					
 Monitoring % Trends 					



4. The **Calculation** section under the **Measurement** tab is where you can set the integration periods for instantaneous and average values of the different electrical parameters.

Notes:

The integration period of average values and Load curves configured in the U-30 module determines the reading interval of Trends and Load curves for all Digiware I-35 modules.

Trends and Load curves are displayed on WEBVIEW-M, the webserver embedded to the DigiBOX M PRO. Refer to the **"Trends"** menu to choose electrical parameters you wish to record for Trends curves on WEBVIEW-M.

It is recommended to set the integration period of Load curves at 15 min (default value), so it matches most utility meter reading intervals.

DE DE				SOCOMOC EASY CONFIG REVETEN 2	3 🛋	A English
	VICE CONFIGURATION		-			tigiisii •
ψu	JSB Mode				Ba	ck to Device List 💿
ala OF	RGANISATION -	Calculations				
60 D	evices by Gateway 👻	Description	Value	U-30@2	Unit	Read
Q	Search	* Calculations				Redu
-	(5) D-50 - 147F5B	Integration Periods				Program
×	U-30@2 - 78AE6B	Integration Period - Inst. Values	5	5	x0.2 s	
rîn	I-35@3 - 468E40	Integration Period - Avg Values	15 Minutes	 15 Minutes 		
	I-35@4 - A23B5F	Integration Period - Load Curves	15 Minutes	 15 Minutes 		
- 87 -9 -9	I-35@6 - 36CFAE	Load Curves Synch. Source	Internal Clock	 Internal Clock 	-	
	I-35@7 - 27F113	* THD				
00		THD Type	THD (Fundamental)	 THD (Fundamental) 	-	
		THD Method	Total	▼ Total	-	
•	Settings	* Other				
	% Digiware	Calculation method for Q/S/Er/Es/PF	Vector	• Vector	-	
	 Measurement 	PF Convention	IEC	• IEC	-	
	% Electrical Network					
	% Calculations					
	 Monitoring 					
	% Trends					
•	 Alarms 					



Monitoring

5. In the **Trends** section under the **Monitoring** tab you can select the parameters that you want to record over time. These parameters are called Trends and their evolution over time can be visualized on WEBVIEW-M.

😂 Easy O	onfig System					- • ×
^				socomec	EASY CONFIG@SYSTEM 2.3	🙂 English 🔹
=	Device Configuration					
	Ψ USB Mode					Back to Device List 🕑
- 683	ORGANISATION -	Trends				
64	Devices by Gateway	Description	Value	U-30@2	Unit	Read
a	Q Search	* Trends				Hous
<i>•</i>	▼ (5) D-50 - 147F5B	* Trend 1				Program
×	U-30@2 - 78AE6B	Average Value	Network V1	 Network V1 		
ŵ	I-35@3 - 468E40	* Trend 2				
	I-35@4 - A23B5F	Average Value	Network V2	 Network V2 		
	I-35@6 - 36CFAE	* Trend 3				
	I-35@7 - 27F113	Average Value	Network V3	 Network V3 		
		* Trend 4				
	CONFIGURATION -	Average Value	Not defined	 Not defined 		
	▼ Settings	Trend 5				
	* Communication	Average Value	Not defined	* Not defined	-	
	 Measurement 	Trend 6				
	% Electrical Network	Average Value	Not defined	 Not defined 		
	% Calculations	* Trend 7				
	 Monitoring 	Average Value	Not defined	* Not defined		1
	% Trends	* Trend 8				
	▼ Alarms	Average Value	Not defined	* Not defined		

Alarms

- 6. The Alarms tab allows you to set up alarms:
 - Measurement alarms are based on custom measurement thresholds
 - EN 50160 Events are based on power quality events (voltage sags, swells, interruptions)
 - System alarms are based on commissioning errors



7. The **Reset** tab allows you to do a reset on specific memory categories of the device. You can also restore the device to its default factory settings.

The configuration of your DIRIS Digiware U-30 module is now complete!



5.4.3 Configuring the DIRIS Digiware I-35 modules

Remain in the **Device Configuration** tab and select the I-35 meter module you wish to configure.



To assist you identifying which module you are configuring, refer the 6-character ID which is the same as the one marked on the front face of each module:



Measurement

- 1. Load: This section allows you to configure the different load(s) monitored by the I-35 meter module. You must configure the number of loads, and for each load:
 - The load name (this name will be synchronized on the D-70 display and WEBVIEW-M webserver)
 - The load type (single-phase, three-phase etc.)
 - The nominal current (this can be the protective device rating for example)

😂 Easy G	onfig System				- o ×
	DEVICE CONFIGURATION			SOCOMEC EASY CONF	1GØSYSTEM 2.3 🕒 🖶 English 🔹
	♥ USB Mode				Back to Device List 🖲
쁆	ORGANISATION -	Load			
63	Devices by Gateway -	Description	Value	1-35@3	Unit
	Q Search	Load 1			Read
1	▼ (5) D-50 - 147F5B	* Activate			Program
×	U-30@2 - 78AE6B	Status	Enabled	* Enabled	
ŵ	I-35@3 - 468E40	Name	Load 1	Load 1	
	I-35@4 - A2385F	туре			
- 0	I-35@6 - 36CFAE	Туре	1P+N-1CT	▼ 1P+N-1CT	-
	I-35@7 - 27F113	Nominal Current	250	250	A
	CONFICURATION	* Phase association to current	tinput		
		н	Input I01	 Input I01 	
	Settings Communication	 Miscellaneous 			
	% Digiware	Usage	Undefined	▼ Undefined	
	▼ Measurement	Load 2			
	% Load	* Activate			
	% Current Sensors	Status	Disabled	* Disabled	
	% Calculations	* Load 3			
	 Monitoring 	* Activate			
	% Load Curves	Status	Disabled	* Disabled	



Note: Supported load types: 1P+N – 1CT, 2P – 1CT, 2P+N - 2CT, 3P – 3CT / 3P – 2CT / 3P – 1CT, 3P+N – 3CT / 3P+N – 1CT

2. The Current Sensors menu allows you to configure the current sensors connected to the I-35 meter module.

The rating of current sensors is automatically detected thanks to the RJ12 technology. For each current sensor, you can change:

- Its orientation: Positive = P1 → P2 on TE/TR/iTR current sensors and in the same direction as arrow for TF current sensors
- Its phase voltage association. This is particularly useful if a wiring mistake has been made during installation

Monitoring

3. The **Trends** menu allows you to select parameters you wish to record for Trends curves on WEBVIEW-M.

Alarms

- 8. The Alarms tab allows you to set up alarms:
 - Measurement alarms are based on custom measurement thresholds
 - System alarms are based on commissioning errors (CT disconnected, inconsistent CT rating etc.)

CONFIGURATION



Reset

- **9.** The **Reset** tab allows you to do a reset on specific memory categories of the device. You can also restore the device to its default factory settings.
- **10.** Repeat the process in paragraph 5.4.3 for other remaining I-35 meter modules within the DigiBOX M.

Once all modules are configured, the system is ready to read correct values and to communicate through Modbus to an external EMS/BMS.



11. You can use the **Real Time visualization** tab to visualize live measurements and phasor diagrams. You will be able to verify that the readings are consistent and approve that there is no wiring error.



6. Using the webserver (WEBVIEW-M)

In this portion of the guide, we will set up the visualization of the measurements from the D70's webserver, WEBVIEW-M.

6.1 Setting up Digiware modules in WEBVIEW-M

- **1.** To access the webserver, connect to the DIRIS Digiware D-70 with an Ethernet cable to a router or PC in the same network.
- 2. In any Web Browser, type the IP address of the D-70 to access the Webserver. The Default IP configuration is shown below.

Ŧ	IP Configuration		
	IP Address	192.168.0.4	
	Subnet Mask	255.255.255.0	
	Gateway	192.168.0.1	

Log in as Administrator with the default password "Admin".
 For cyber security reasons the application ask you to change the default password. Your password must be changed at least once a year to access the setup menu of the webserver.







It is also recommended to change default passwords of Cyber Security and Advanced User profiles in addition to the Admin profile. Until default passwords for all 3 profiles have been changed, the Password Alert alarm will remain active and **the ALARM LED on the D-70 will be flashing.**

The Password Alert alarm can also be disabled from Easy Config System.

Once connected as Admin, click on the toolbox icon in the top left corner of the screen



4. Then Click on the "Devices" tab on the top left hand of the screen





5. The first time you connect to the webserver, it will automatically load the slave modules connected to the D-70 into the webserver:

₩ 🎗	Architecture			Exploitation		Data Logger	Notification	ns	14		WEBVIEW-M V2.8 🕫
	Sources	Circuits	Usages	Hierarchies	Photoviews	Planning	Notificatio	ons			
Devices											2023/01/11 17:18:02
Sources											🗹 Modbus 🕈
Research			20								
Reference	Name			Area	IP Addres	M、dbus	Address	Network Type	Network ID	Status	Actions
D-70 D-70					localho	st	255 U	Unknown Network			
											10 •

If new devices are added to the D-70, they will need to be added to WEBVIEW-M by clicking on the "Scan" button at the bottom right corner. They can also be added manually by clicking on the "+" button.



6. Once all modules have been added to WEBVIEW-M, you can change the module's names, and their area from the "Sources" tab. To do so, click on "Edit" button under the "Actions" column.

≝ ≿										7		WEBVIEW-M V2.8 🕫
		Architecture			Exploitation		Data Logger	Notifications				
		Sources	Circuits	Usages	Hierarchies	Photoviews	Planning	Notifications				
Devi	ces											2023/01/11 17:30:50
Sources												Modbus 🗢
Research				\mathbf{O}								
Reference		Name		A	rea	IP Addr	ess	Modbus Address	Network Type	Network ID	Status	Actions
D-70	D-70						localhost	1	None / Unknown	BC1939		
1-35	Compress	or				localhost		2	3P+N	7E229C	•	
1-35	1-35@3						localhost	3	3P+N	E34C91	₽	
1-35	1-35@4						localhost	4	3P+N	70FACA	₽	
U-30	U-30@6						localhost	6	3P+N	F221B6	•	
1	•											10 ¢



7. From the "Circuits" tab, you can rename the Load names (they have already been changed in Easy Config System), and select an energy usage (heating, lighting etc.) associated to each load. Selecting energy usages is useful when creating Hierarchies to understand which usage consumes the most energy.

WEBVIEW-M is now set up. You can go back to home screen menu by clicking on



The "Monitor" menu allows you to visualize real time measurements, the "Trends" menu allows you to visualize historical measurements, and "Consumption" menu shows consumption curves.

6.2 Configuring Hierarchies

The Hierarchies organize the metering points in the form of a tree structure, giving you a functional view of the loads.

The hierarchy generally represents a geographical organization (Site \rightarrow Buildings \rightarrow Areas), so you can show energy breakdown by area.

- 1. Click on the "Hierarchy" tab and then select "Add a Hierarchy". Choose a name and a fluid the select the check mark to validate.
- 2. Drag and drop the loads on the center of the screen, create a link between the loads to create the desired relationship





3. Once finished, save the Hierarchy by clicking the save symbol next to the "X" on the right hand side of the screen. Once the hierarchy has been created, the breakdown of consumption per load and per usage can be viewed in the "Consumptions" menu accessible from WEBVIEW-M's home screen:



6.3 Configuring Photoview

Photoview allows you to display electrical measurements directly on a chosen background picture. The picture can be a map, a panel, an electrical diagram, etc. It shows an overview of all your metering points and their electrical measurements.

1. Click on the "Photoviews" tab:

	Architecture			Exploitation		Data Logger	Notifications
	Sources	Circuits	Usages	Hierarchies	Photoviews	Planning	Notifications
Devices							

- 2. Next click on "Add a new Photo view".
- **3.** Give it a name and choose an icon. Then select the picture you would like to use. Select the checkmark to validate
- **4.** The picture will now appear on the screen. On the picture, you can drag and drop devices, text and measurements. You can also add a link to create a connection to another Photoview.



- 5. For example, click and hold on "Measure" and drag it onto the picture. A selection window will open with the list of available devices, loads associated to the devices and data available for each load.
- 6. Select a device and select the different measurements you want displayed on your Photoview.
- **7.** Once the measurements have been selected, they will be directly displayed on the picture. They can be moved anywhere on the picture.
- **8.** Double click on the measurement table to go back to the list of devices, loads and measurements.
- 9. Once your Photoview is fully configured, click on the save icon on the right side of the screen.
- **10.** Go back to WEBVIEW-M's homepage; a **"Photoview"** menu is now available.



11. Click on **"Photoview".** The values are displayed in real time on the picture previously chosen.





Congratulations! Your configuration is now complete.



If you need any assistance, please email our support team at <u>tech.us@socomec.com</u>. For all other inquiries, contact <u>info.us@socomec.com</u>.

For more information on our other products and solutions, visit our website at www.socomec.us

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